

WHAT IS CLAIMED IS:

1. An isolated infectious respiratory syncytial virus particle which comprises an respiratory syncytial virus antigenome or genome containing at least one functional deletion in a viral accessory gene.

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2. An isolated infectious respiratory syncytial virus particle having an attenuated phenotype comprising a respiratory syncytial virus antigenome or genome containing an M2-2 gene mutation.

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3. An isolated infectious respiratory syncytial virus particle having an attenuated phenotype comprising a respiratory syncytial virus antigenome or genome containing an SH gene mutation.

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4. An isolated infectious respiratory syncytial virus particle having an attenuated phenotype comprising a respiratory syncytial virus antigenome or genome containing an NS1 gene mutation.

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5. An isolated infectious respiratory syncytial virus particle having an attenuated phenotype comprising a respiratory syncytial virus antigenome or genome containing an NS2 gene mutation.

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6. An isolated infectious respiratory syncytial virus particle having an attenuated phenotype comprising a respiratory syncytial virus antigenome or genome containing both an M2-2 gene mutation and an SH gene mutation.

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7. An isolated infectious respiratory syncytial virus particle having an attenuated phenotype comprising a respiratory syncytial virus antigenome or genome containing both an M2-2 gene mutation and an NS1 gene mutation.

8. An isolated infectious respiratory syncytial virus particle having an attenuated phenotype comprising a respiratory syncytial virus antigenome or genome containing both an M2-2 gene mutation and an NS2 gene mutation.

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9. An isolated infectious respiratory syncytial virus particle having an attenuated phenotype comprising a respiratory syncytial virus antigenome or genome containing both an NS1 gene mutation and an NS2 gene mutation.

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10. An isolated infectious respiratory syncytial virus particle having an attenuated phenotype comprising a respiratory syncytial virus antigenome or genome containing both an NS1 gene mutation and an SH gene mutation.

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11. An isolated infectious respiratory syncytial virus particle having an attenuated phenotype comprising a respiratory syncytial virus antigenome or genome containing both an NS2 gene mutation and an SH gene mutation.

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12. An isolated infectious respiratory syncytial virus particle having an attenuated phenotype comprising a respiratory syncytial virus antigenome or genome containing an NS1 gene mutation, an NS2 gene mutation and an SH gene mutation.

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13. An isolated infectious respiratory syncytial virus particle having an attenuated phenotype comprising a respiratory syncytial virus antigenome or genome containing an M2-1 gene mutation.

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14. The isolated infectious respiratory syncytial virus particle of Claim 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 or 13 which further comprises a

heterologous sequence.

15. The recombinant RNA molecule of Claim 14 in which the heterologous sequence is derived from the genome of another strain of respiratory syncytial virus.

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16. The recombinant RNA molecule of Claim 14 in which the heterologous sequence is derived from the genome of a virus other than respiratory syncytial virus.

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17. A vaccine comprising a respiratory syncytial virus, the genome of which contains the reverse complement of an mRNA coding sequence operatively linked to a polymerase binding site of a respiratory syncytial virus, and a pharmaceutically acceptable carrier.

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18. The vaccine of Claim 17 in which the mRNA coding sequence contains a deletion of the complete M2-2 gene.

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19. The vaccine of Claim 17 in which the mRNA coding sequence contains a mutagenized M2-1 gene.

20. The vaccine of Claim 19 in which the M2-1 gene is mutagenized by cysteine scanning mutagenesis.

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21. The vaccine of Claim 19 in which the M2-1 gene is mutagenized by C-terminal truncation of the M2-1 protein.

22. The vaccine of Claim 17 in which the mRNA coding sequence contains a deletion of the complete SH gene.

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23. The vaccine of Claim 17 in which the mRNA coding

sequence contains a deletion of the complete M2-2 gene.

24. The vaccine of ~~Claim 17~~ in which the mRNA coding sequence contains a deletion of the complete NS1 gene.

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25. The vaccine of ~~Claim 17~~ in which the mRNA coding sequence contains a deletion of the complete NS2 gene.

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26. The vaccine of ~~Claim 17~~ in which the mRNA coding sequence contains a deletion of both the complete M2-2 gene and the complete SH gene.

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27. The vaccine of ~~Claim 17~~ in which the mRNA coding sequence contains a deletion of both the complete M2-2 gene and the complete NS1 gene.

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28. The vaccine of ~~Claim 17~~ in which the mRNA coding sequence contains a deletion of both the complete M2-2 gene and the complete NS2 gene.

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29. The vaccine of ~~Claim 17~~ in which the mRNA coding sequence contains a deletion of both the complete NS1 gene and the complete NS2 gene.

30. The vaccine of ~~Claim 17~~ in which the mRNA coding sequence contains a deletion of both the complete M2-2 gene and the complete SH gene.

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31. The vaccine of ~~Claim 17~~ in which the mRNA coding sequence contains a deletion of both the complete NS1 gene and the complete SH gene.

32. The vaccine of Claim 17 in which the mRNA coding sequence contains a deletion of the complete NS1 gene, the complete NS2 gene and the complete SH gene.

5 33. The vaccine of Claim 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31 or 32 which further comprises a heterologous sequence

34. The vaccine of Claim 33 in which the heterologous gene is derived from the genome of influenza.

10 35. A pharmaceutical composition comprising the attenuated vaccine of Claim 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28 or 29.

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add P17
add C27

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